# NAHANNI

## VISITOR SURVEY
## 1982

REPORT ON FINDINGS

Parks Canada Parcs Canada

D0861549

# NAHANNI NATIONAL PARK RESERVE
# VISITOR SURVEY, 1982

## REPORT ON FINDINGS

Socio Economic Research Division
Prairie Regional Office
July 1983

## TABLE OF CONTENTS


| | | Page |
|---|---|---|
| 1.0 | INTRODUCTION | 1 |
| | 1.1 Nature of Park | 1 |
| | 1.2 Study Background | 3 |
| | 1.3 Study Purpose and Objectives | 3 |
| | 1.4 Sampling | 4 |
| 2.0 | VISITOR CHARACTERISTICS | 5 |
| | 2.1 General Visitation Characteristics | 5 |
| | 2.2 Visitor Use Patterns | 6 |
| | 2.2.1 Activities | 6 |
| | 2.2.2 Party Size | 7 |
| | 2.2.3 Trip Duration | 7 |
| | 2.2.4 Trip Start and Finish Points | 8 |
| | 2.2.5 Recreational Activities | 8 |
| | 2.2.6 Campsite Use | 9 |
| | 2.2.7 Parties Encountered on Trip | 10 |
| | 2.2.8 Source of Visitor Information on Trip | 10 |
| 3.0 | VISITOR PERCEPTIONS AND ATTITUDES | 11 |
| | 3.1 Crowding in Nahanni National Park Reserve | 11 |
| | 3.2 Limiting Visitation | 11 |
| | 3.3 Disturbing Behavior | 12 |
| | 3.4 Effect of Powerboats and Aircraft on Park Users | 14 |
| | 3.5 Need for Facility Improvements | 15 |
| | 3.6 Motivation for Visiting NNPR | 16 |
| | 3.7 Highlights of the NNPR Trip | 17 |
| | 3.8 Detractions Along Trip | 19 |
| | 3.9 Trip Satisfaction | 20 |

TABLE OF CONTENTS (Cont'd)


| | | Page |
|---|---|---|
| 4.0 | EXPENDITURE IMPACT OF NAHANNI TOURIST ACTIVITY IN THE N.W.T. | 21 |
| | 4.1 Travel Routes to the Park | 21 |
| | 4.2 Expenditures in Canada and the N.W.T. | 21 |
| | 4.3 Accommodation While in the N.W.T. | 23 |
| | 4.4 Other Visitor Travel Costs to the N.W.T. | 23 |

LIST OF TABLES

Table 2-1: Region of Origin of Nahanni Visitors, 1982.

Table 2-2: Registration Point of Nahanni Visitors, 1982.

Table 2-3: Destination of Nahanni Visitors, 1982.

Table 2-4: Type of party - Nahanni National Park Reserve Visitation, 1982.

Table 2-5: Visitor Use of Nahanni National Park Reserve, 1976-82, by visitor activity.

Table 2-6: Month of visitor entrance into or departure from Nahanni National Park Reserve, 1982.

Table 2-7: Party size of Nahanni Visitors, 1982.

Table 2-8: Number of nights spent in Nahanni National Park Reserve by visitors, 1982.

Table 2-9: Trip start and finish locations - Nahanni National Park Reserve, 1982

Table 2-10: Activities participated in by Nahanni National Park Reserve visitors in addition to boating and camping, 1982.

Table 2-11: Comparison of visitor travel mode with activity participation in Nahanni National Park Reserve, 1982.

LIST OF TABLES (cont'd)

Table 2-12: Campsite use in Nahanni National Park Reserve, 1982.

Table 2-13: Parties encountered during entire trip by Nahanni National Park Reserve visitors, 1982.

Table 2-14: Sources of information used by Nahanni National Park Reserve visitors, 1982.

Table 3-1: Perceptions of crowding by Nahanni National Park Reserve Visitors, 1982.

Table 3-2: Correlation between transportation mode and desire to limit visitation to Nahanni National Park Reserve, 1982.

Table 3-3: First choices for limiting visitation to Nahanni National Park Reserve correlated with travel mode, 1982.

Table 3-4: Nature of Disturbances encountered in Nahanni National Park Reserve, 1982.

Table 3-5: Sizes of groups creating disturbances in Nahanni National Park Reserve, 1982.

Table 3-6: Locations of disturbing behavior in Nahanni National Park Reserve, 1982.

Table 3-7: Travel mode correlated with nature of disturbance in Nahanni National Park Reserve, 1982.

Table 3-8: Correlation between recreation activity and nature of disturbances experienced in Nahanni National Park Reserve, 1982.

Table 3-9: Visitors indicating diminishment of enjoyment due to presence of powerboats and aircraft in Nahanni National Park Reserve, 1982.

Table 3-10: Correlation of travel mode with diminishment of experience in Nahanni National Park Reserve, 1982.

Table 3-11: First choices for controlling powerboat traffic correlated with travel mode in Nahanni National Park Reserve, 1982.

Table 3-12: First choices for controlling aircraft traffic correlated with travel mode in Nahanni National Park Reserve, 1982.

Table 3-13: Need for facility development correlated with travel mode in Nahanni National Park Reserve, 1982.

Table 3-14: Types of facility improvements desired by visitors to Nahanni National Park Reserve, 1982.

Table 3-15: Types of facility improvements desired Nahanni National Park Reserve correlated with travel mode, 1982.

Table 3-16: Motivating factors for park visitors to Nahanni National Park Reserve, 1982.

LIST OF TABLES (cont'd)

Table 3-17: Motivations for visiting Nahanni National Park Reserve correlated with travel mode in the park, 1982.

Table 3-18: Highlights of trips by Nahanni National Park Reserve visitors in 1982.

Table 3-19: Highlights of Nahanni National Park Reserve correlated with visitor travel mode in the park, 1982.

Table 3-20: Detractions experienced by visitors to Nahanni National Park Reserve, 1982.

Table 3-21: Detractions reported by visitors to Nahanni National Park Reserve, 1982 correlated with travel mode.

Table 4-1: Access Routes to Nahanni National Park Reserve correlated with travel mode in the park, 1982.

Table 4-2: Overall expenses in Canada correlated wish travel mode and route to Nahanni National Park Reserve, 1982.

Table 4-3: Overall expenses in N.W.T. correlated with travel mode and route to Nahanni National Park Reserve, 1982.

Table 4-4: Average per person expenditures in Canada and the N.W.T. correlated with travel mode, 1982.

Table 4-5: Average expenditures per individual in Canada correlated with travel mode and route to Nahanni National Park Reserve, 1982.

LIST OF TABLES (cont'd)

Table 4-6: Average expenditures per individual in N.W.T. correlated with travel mode and route to Nahanni National Park Reserve, 1982.

Table 4-7: Categories of average visitor expenditures in the N.W.T. correlated with travel mode in Nahanni National Park Reserve, 1982.

Table 4-8: Total expenditures in N.W.T. by category correlated with travel mode in Nahanni National Park Reserve, 1982.

Table 4-9: Number of nights spent at various locations in N.W.T. by Nahanni National Park Reserve visitors, 1982.

Table 4-10: Prepaid and departure point costs correlated with travel mode of visitors to Nahanni National Park, 1982.

Table 4-11: Categories of prepaid costs paid by visitors to Nahanni National Park Reserve, 1982.

Table 4-12: Summary table of trip expenses incurred by Nahanni National Park Reserve visitors, 1982.

LIST OF FIGURES

Figure 1-1: Nahanni National Park Reserve: Regional Setting

Figure 1-2: Nahanni National Park Reserve: Local Features and Landmarks

# 1.0 INTRODUCTION

## 1.1 Nature of Park

Nahanni National Park was established in 1972 to protect its outstanding natural features representative of Natural Region #8 - the Mackenzie Mountains Region. In 1976, the park was proclaimed a National Park Reserve pending native land claims.

The park reserve is centred on a 300 km stretch of the South Nahanni River (Figure 1-1). For 118 km, from Rabbitkettle Hot Springs to Virginia Falls, the river follows the meanders of a broad U-shaped valley. At Virginia Falls, a 91 m cataract sends the river rolling through four great canyons to eventually leave the park and the Nahanni ranges, and add to the Liard and Mackenzie rivers in their northward passage.

Access to Nahanni is relatively limited. The park has no roads. Visitors can drive from Edmonton to Fort Simpson on the Mackenzie Highway or to Watson Lake on the Alaska Highway (both centres are also serviced by scheduled airlines). The recently completed Liard Highway from Fort Nelson to the Mackenzie Highway will allow road access to within 30 km of the eastern park boundary (Figure 1-2). Chartered float planes from Watson Lake and Fort Simpson, have been the usual modes of access to the Nahanni headwaters. Increasing mining activity has pushed road access to within 12 km of the South Nahanni's tributaries. Motorized boat travel usually originates at Nahanni Butte and such access is permitted as far as Virginia Falls. The upper reach of the South Nahanni (Virginia Falls to the northwest boundary) and the entire park portion of the Flat River are designated for non-motorized river travel.

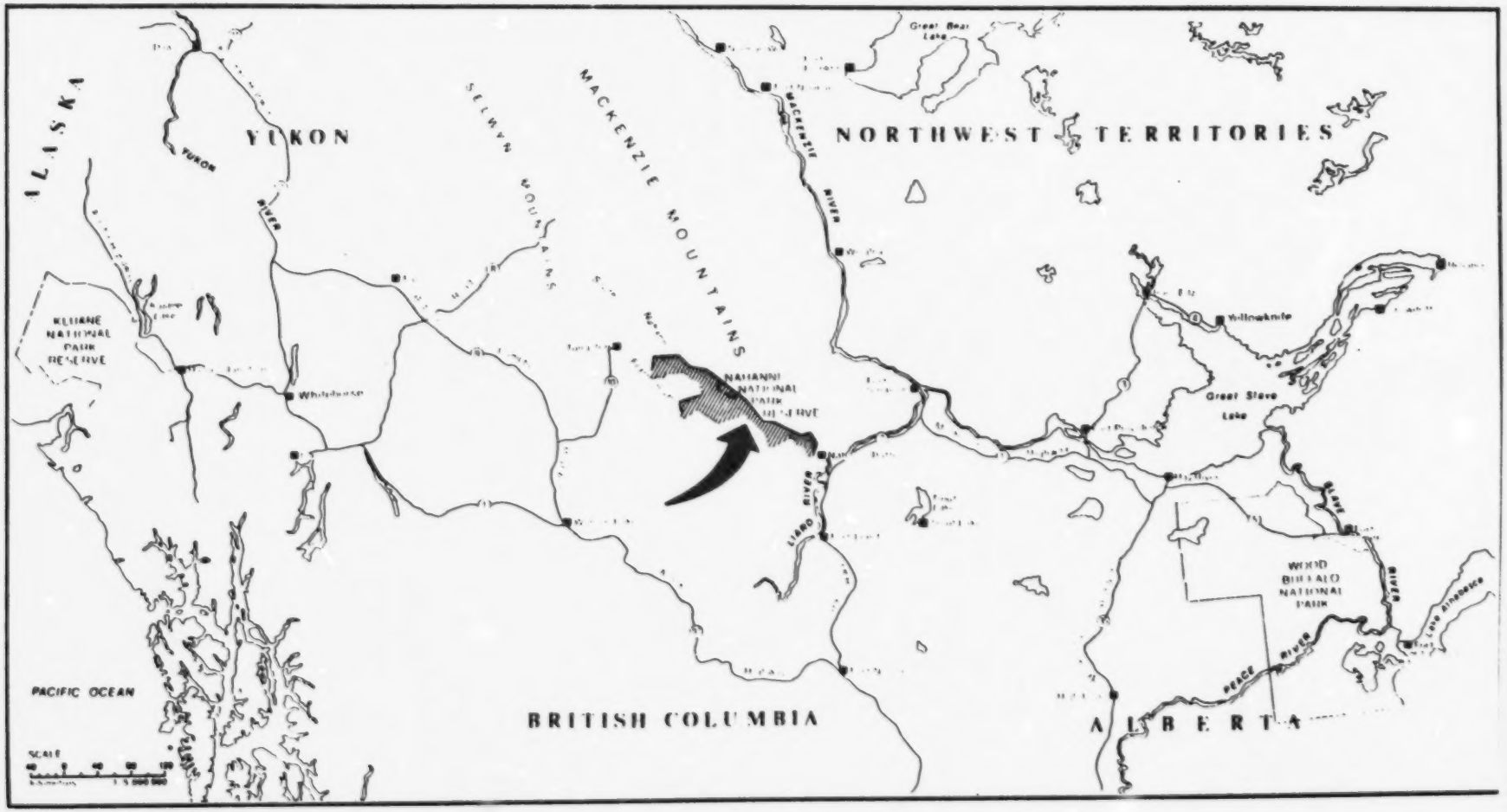



**FIGURE 1-1. NAHANNI NATIONAL PARK RESERVE: REGIONAL SETTING.**

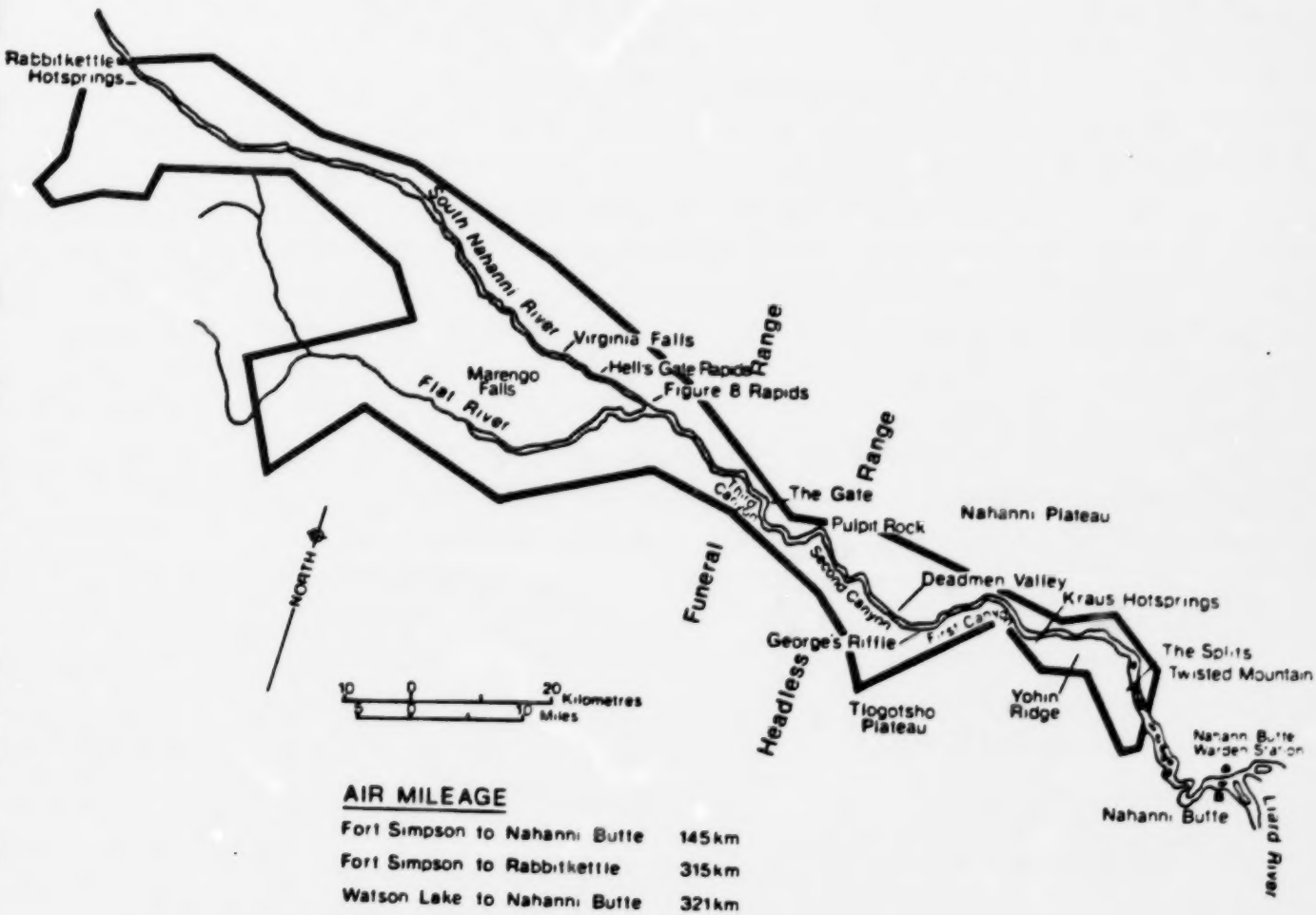
Aircraft access to the park is controlled by management guidelines. Only Virginia Falls is designated as a day use area for aircraft access. Landings are permitted in Deadmen Valley at the Superintendent's discretion, and air access to Rabbitkettle Lake is encouraged only between the 1000-1800 hour period.

Development in the park has been kept to a minimum. Designated campgrounds are found at Rabbitkettle Lake, and Virginia Falls. Primitive campsites are also established at Marengo Creek, Deadmen Valley, Big Bend, and Kraus Hot Springs. Two outfitter's group campsites are also maintained, one at Dry Canyon Creek in Deadmen Valley, and the other near the Flat River confluence. Generally, campers find their own sites. Warden cabins are scattered sparesely along the river at Rabbitkettle Lake, Sunblood Mountain, Flat River confluence, and Deadmen Valley.

Overnight visitors are required to register at designated points; Fort Simpson, Nahanni Butte, or Rabbitkettle Lake. A self-registration station is also established at Seaplane Lake on the Flat River. Upon completion of their trip, visitors terminate their registration at Nahanni Butte or Fort Simpson. There are no developed trails that can be called hiking trails. The 1.6 km trail from Rabbitkettle campground to the hotsprings tufa mounds is a poplar walk. Portages are infrequent. The longest is the 1.25 km trail (mostly boardwalk) around Virginia Falls. The 610 m portage from Rabbitkettle Lake to the South Nahanni, and the 300 m portage around Figure 8 Rapids make up the remainder.

Commercial outfitters have been relatively few to date. In 1981, three companies accounted for roughly 20% of total visitation. Whitewater Adventures (rafting) - Ottawa, and Black Feather Canoes - Vancouver, accounted for the majority of commercial river

**FIGURE 1-2. NAHANNI NATIONAL PARK RESERVE: LOCAL FEATURES AND LANDMARKS.**




## AIR MILEAGE

| | |
|---|---|
| Fort Simpson to Nahanni Butte | 145km |
| Fort Simpson to Rabbitkettle | 315km |
| Watson Lake to Nahanni Butte | 321km |
| Watson Lake to Rabbitkettle | 225km |

trips. Only one (8 person trip was made by South Nahanni River Ltd. (jet-boat), and the company has subsequently dissolved relinquishing its National Parks business license.

## 1.2 Study Background

A Nahanni National Park Reserve visitor survey was conducted by Parks Canada in 1982 to gather information which would assist in the current management plan preparation for the park. Information was gathered on visitor and visitation characteristics, perceptions and attitudes to management issues and economic data. The methodology and rationale employed in sampling the 1982 over-night visitation has been detailed in Nahanni National Park Reserve Survey Report 1982 prepared by Socio-Economic Division, Ottawa, April 1983 and is published as a separate report.

Socio-Economic Division, Ottawa took on responsibility for the coding and keypunching of survey responses. Subsequently, the data were processed using the Statistical Package for the Social Sciences (SPSS).

Socio-Economic Research Division, Prairie Regional Office is responsible for the analysis and evaluation of survey results.

## 1.3 Purpose and Objectives

The survey was designed to provide information in the following areas:

- profile of trip characteristics
- recreation participation in the park
- perceptions and attitudes of park users to selected management issues.

- profile of visitor impact on local community accommodation and services
- socio-economic information on location and amount of visitor expenditures in Canada and N.W.T.

The present effort is directed toward reporting on the results of the survey with respect to these topics. The study findings are anticipated to be used first, to profile and characteristics present Nahanni visitor use and secondly, as a background document to be used in evaluating the socio-economic impact of management plan alternatives. The specific research objectives have been dealt with in the Planning Report and will not be reitterated here.

## 1.4 Sampling

The sample of responses which constitutes the population in this study depended upon return of mailed questionnaires from overnight registrants, the total of which numbered 454[1] in 1982. Of these, 221 completed questionnaires were received and constitute the basis for statistics generated in this report. Weighting of survey responses by household was employed to reconstruct total over-night NNPR visitation and visitor characteristics for 1982. Day use visitors, representing 15% of total visitation (see Table 2-5), are not included in this survey.

---

[1]Actual respondents were further limited by household (see Planning Report)

## 2.0 VISITOR CHARACTERISTICS

### 2.1 General Visitation Characteristics

#### Visitor Origin

Over 70% of all visitors to NNPR in 1982 were from Canada. Visitation from Alberta and B.C. constituted the largest regional origin for with 34.1%; followed by New Brunswick, Quebec and Ontario (25.9%). Local use of the park ie. N.W.T. and Y.T. resident accounted for 11.1% of total use. The U.S. (22.0%) and Europe (6.1%) were the remaining significant origins of NNPR visitation (see Table 2-1).

#### Registration

As expected, Rabbitkettle Lake was the most commonly used registration point for recording park travel (Table 2-2). Fully 70% of all park users in 1982 registered there with 22.9% at Nahanni Butte downstream of the park on the South Nahanni River. Finally 6.9% registered at Ft. Simpson where the park's administrative headquarters are located.

#### Destination

NNPR was supported as the mainstop destination of approximately 85% of all park visitors (Table 2-3). The park reserve was indicated to be one of several destination points for 14.3% of park users. Of the above and the remaining 3.8% who visited the park reserve for "other" reasons, the greater number indicated travel motives such as canoeing the Little Nahanni River, canoeing the South Nahanni from its source to its confluence with the Liard River or visiting the general area of which the park reserve was either a part of or on the travel exit route.

TABLE 2-1: REGION OF ORIGIN OF NAHANNI VISITORS, 1982

| | # | % |
|---|---|---|
| Alta., B.C. | 153 | 34.1 |
| N.B. QUE., ONT. | 117 | 25.9 |
| U.S. | 99 | 22.0 |
| N.W.T., Y.T. | 50 | 11.1 |
| Europe | 27 | 6.1 |
| Man., Sask. | 3 | 0.8 |
| Total | 449 | |

TABLE 2-2: REGISTRATION POINT OF NAHANNI VISITORS, 1982.

| | # | % |
|---|---|---|
| Fort Simpson | 26 | 6.9 |
| Rabbitkettle Lake | 267 | 70.2 |
| Nahanni Butte | 87 | 22.9 |
| Missing | 68 | |
| Total | 449 | |

TABLE 2-3: DESTINATION OF NAHANNI VISITORS, 1982

| | # | % |
|---|---|---|
| Main destination | 367 | 81.9 |
| one of several destinations | 64 | 14.3 |
| other | 17 | 3.8 |
| Total | 449 | |

TABLE 2-4: TYPE OF PARTY - NAHANNI NATIONAL PARK RESERVE VISITATION, 1982

| Table 4: | # | % |
|---|---|---|
| Yourself | 13 | 2.9 |
| Family/friends | 317 | 70.6 |
| Club | 13 | 2.9 |
| Commercial | 106 | 23.7 |
| Total | 449 | |

Party Composition

In terms of party composition, the highest percentages of group travellers could be characterized as parties of friends or family (70%). A sizable percentage (23.7%) of park users joined a commercial tour to visit the park with only 5.0% indicating single person travel or club affiliation as the companion mode of NNPR travel through the park. (Table 2-4).

## 2.2 VISITOR USE PATTERNS

### 2.2.1 Activities

Three basic types of visitor use occur at Nahanni National Park Reserve. These are the following:

- day visitors entering the park by air,
- overnight visitors entering the park by air, and
- overnight visitors entering the park by water.

As indicated in Table 2-5, the vast majority of 1982 park users overnight in NNPR (82%). Day users, staged out of Fort Simpson, Fort Nelson, or Watson Lake represent the other major recreation activity (15% of total visitation) with technical, special, and research groups accounting for the remaining 3%.

Transportation Mode in NNPR

Canoeing, kayaking or rafting of the South Nahanni River, either below or above Virginia Falls, constituted the most popular use of the park (69%). Power boating and jet boating activity is represented by the least number of visitors to NNPR at 11% of total visitation. Canoeing/rafting groups spend, on average, 10 nights per tour, and aircraft and jet boaters averaged less than

**TABLE 2-5: VISITOR USE OF NAHANNI NATIONAL PARK RESERVE 1976-82 by visitor activity (individuals)**

| Visitor Use | 1976-7 | 1977-8 | 1978-9 | 1979-80 | 1980-1 | 1981-2 | 1982-3 |
|---|---|---|---|---|---|---|---|
| Overnight registration | 227 | 173 | 243 | 218 | 372 | 407 | 454 |
| Overnight not registered | - | 20 | - | 35 | 32 | 12 | 11 |
| Subtotal | 227 | 193 | 243 | 253 | 404 | 419 | 465 |
| Day use | 12 | 39 | 54 | 70 | 39 | 88 | 86 |
| Technical/special | - | - | - | 23 | 12 | - | 13 |
| Totals | 239 | 232 | 297 | 346 | 455 | 507 | 564 |
| Visitor Activity | | | | | | | |
| Canoeing | 116 | 107 | 135 | 53 | 215 | 173 | 244 |
| Kayak | 8 | 13 | 3 | 9 | 12 | - | - |
| Power Boat | 20 | 29 | 21 | 26 | 10 | 9 | 34 |
| Jet Boat | 5 | 21 | 23 | 23 | 30 | 42 | 29 |
| Hiking | 5 | 12 | 8 | - | 3 | - | - |
| Rafting | 13 | 11 | 10 | 12 | 16 | 84 | 145 |
| Aircraft | 11 | - | - | 4 | 3 | 7 | 2 |
| Subtotal | 178 | 193 | 200 | 127 | 289 | 315 | 454 |
| Commercial | 49 | - | 43 | 94 | 115 | 115[a] | 115[b] |
| Day use | 12 | 39 | 54 | 67 | 39 | 88 | 86 |
| Other overnight | - | - | - | 58 | 12 | - | 24 |
| Totals | 239 | 232 | 297 | 346 | 455 | 507 | 564 |

a 8 individuals are included in the sub-total above.

b all individuals in this category are included in sub-total above.

one (1) day. The prime period of visitor use occurs from the beginning of July to the end of August of each summer season. The shoulder season months of June, September and October account for less than 10% of total registered visitation in the 1982 season (Table 2-6). Recreational winter use of NNPR consisted of one group of 11 skiers in 1982 out of Tungsten on a 3 week expedition to Rabbitkettle Hotsprings and back. No other winter use is recorded. Total visitation for 1982 consisted of 564 individuals.

The sample population indicates 52.4% of registered NNPR visitors to have been canoeists in 1982. Of the remainder, 33% rafted while 14.6% powerboated within park boundaries.

### 2.2.2 Party Size

85% of park users travelled in groups of 12 individuals or less (Table 2-7). The 5-8 person group reflected the most common group size (37.1%) followed by groups of 4 persons or less representing 32.2% of park visitors. Canoeists comprised the greatest proportion of 4person and less group (85%) and 5-8 person groups (52%). Raftinggroups, in contrast, predominated in all group sizes larger than 8 persons with some groups over 21 individuals in size. Overall, 64% of rafting groups were over 8 persons in size. Powerboaters most commonly traveled in groups of 5-8 persons (5.8%).

### 2.2.3 Trip Duration

The average length of stay for all transportation modes within the park was 9-12 nights (56.7%). This varies between modes and particularly between powerboaters (5.7 nights) and canoeists/ rafters (12.4 and 11.0 nights, respectively, see Table 2-8).

TABLE 2-6: MONTHS OF VISITOR ENTRANCE INTO OR DEPARTURE FROM NAHANNI NATIONAL PARK RESERVE, 1982.

| Month | Entered Park (%) | Left Park (%) |
|---|---|---|
| June | 30 (7.8) | 15 ( 3.8) |
| July | 168 (43.5) | 103 (26.7) |
| August | 185 (48.1) | 244 (63.3) |
| September | 2 ( 0.5) | 24 (6.1) |
| Missing | 63 | |
| Total | 449 | |

TABLE 2-7: PARTY SIZE OF NAHANNI VISITORS, 1982.

| No. of Persons | # Parties | % |
|---|---|---|
| 4 or less | 143 | 32.2 |
| 5-8 | 165 | 37.1 |
| 9-12 | 68 | 15.3 |
| 13-16 | 26 | 5.8 |
| 17-20 | 18 | 4.0 |
| 21-25 | 25 | 5.6 |
| Missing | 5 | - |
| Total | 449 | |

TABLE 2-8: NUMBER OF NIGHTS SPENT IN NAHANNI NATIONAL PARK RESERVE BY VISITORS, 1982.

| No. of Persons | # of nights | % |
|---|---|---|
| 4 or less | 31 | 7.0 |
| 5-8 | 51 | 11.4 |
| 9-12 | 252 | 56.7 |
| 13-16 | 72 | 16.1 |
| 17-20 | 32 | 7.1 |
| 21-25 | 5 | 1.1 |
| 26+ | 3 | 0.7 |
| Missing | 3 | - |
| Total | 449 | |

TABLE 2-9: TRIP START AND FINISH LOCATIONS - NAHANNI NATIONAL PARK RESERVE, 1982

| Location | Start (%) | Finish (%) |
|---|---|---|
| Rabbitkettle Lake | 73 (42.0) | 2 (1.2) |
| Moose Ponds | 43 (24.7) | - - |
| Island Lake | 19 (10.9) | - - |
| Nahanni Butte | 14 (8.0) | 126 (72.4) |
| Little Nahanni River | 12 (6.9) | - - |
| Flat Lakes | 7 (4.0) | - - |
| Britnell Creek | 2 (1.1) | - - |
| Broken Skull River | 2 (1.1) | - - |
| MacMillan Pass | 1 (0.6) | - - |
| Fort Simpson | 1 (0.7) | 27 (15.5) |
| Blackstone Landing | - - | 14 ( 8.0) |
| Fort. Liard | - - | 3 ( 1.7) |
| Virginia Falls | - - | 2 ( 1.2) |
| Total | 174* | 174* |

* Unweighted sample

### 2.2.4 Trip Start and Finish Points

The overwhelming majority (85.6%) of park user groups originated their trips either outside the park above Rabbitkettle Lake on the south Nahanni River (44.3%) or at Rabbitkettle Lake just inside NNPR's northwestern boundary (41.3%). A further 4.6% of visitor parties originated their trips along the Flat River while 7.5%, exclusively powerboaters, started from Nahanni Butte below the park on the South Nahanni River. Two groups also started at Nahanni Butte but flew to Rabbitkettle Lake to view the park (Table 2-9).

The finishing point of park trip was almost exclusively Nahanni Butte (97.7%) for all river users. The exceptions were two parties who were evacuated in the vicinity of Virginia Falls and two park overflights.

In addition, a significant percentage of parties (25.3%) reported canoeing up the Liard to Fort Liard or down the Liard River either to Fort Simpson or Blackstone Landing after exiting NNPR. This indicates, along with the 44.3% who start trips outside NNPR, that the park is only one attraction in the overall trip planning of a substantial proportion of visitors to the area. Incidently, this observation is supported by the large number of comments received from park visitors who felt that NNPR should be enlarged to include significant features outside of present boundaries, particularly upstream on the South Nahanni River.

### 2.2.5 Recreational Activities

In addition to canoeing, rafting and powerboating all registered park users reported other activities that they engaged in during

**TABLE 2-10: ACTIVITIES PARTICIPATED IN BY NAHANNI NATIONAL PARK RESERVE VISITORS IN ADDITION TO BOATING AND CAMPING, 1982**

| Activity | # of sample | % |
|---|---|---|
| Hiking | 369 | (83.2) |
| Climbing | 6 | (1.3) |
| Sportfishing | 283 | (63.8) |
| Nature Study | 244 | (55.0) |
| Photography | 384 | (86.4) |
| Other | 28 | (6.4) |
| Missing | 5 | |
| Total | 449 | |

**TABLE 2-11: COMPARISON OF VISITOR TRAVEL MODE WITH ACTIVITY PARTICIPATION IN NAHANNI NATIONAL PARK RESERVE, 1982**

| Activity | Canoe (%) | Raft (%) | Powerboat (%) | |
|---|---|---|---|---|
| Hiking | 210 (90.1) | 127 (85.7) | 33 (51.8) | |
| Climbing | 3 (1.3) | - | 2 (3.9) | |
| Sportfishing | 165 (70.7) | 65 (43.9) | 54 (85.0) | |
| Nature Study | 129 (55.2) | 85 (57.2) | 31 (48.8) | |
| Photography | 206 (88.5) | 134 (90.7) | 43 (68.6) | |
| Other | 17 (7.4) | 8 (5.7) | 2 (3.9) | |
| Total | 233 | 148 | 63 | 444* |
| * 5 Cases missing. | | | | |

**TABLE 2-12: CAMPSITE USE IN NAHANNI NATIONAL PARK RESERVE, 1982**

| Location | # of nights (% in each category) 1 | 2 | 3 | 4 | 5 | Totals |
|---|---|---|---|---|---|---|
| Rabbitkettle Lake | 125 (63.1) | 69 (34.8) | 4 (2.1) | - | - | 275 |
| Virginia Falls | 91 (26.7) | 210 (61.6) | 37 (10.8) | 3 (0.9) | - | 634 |
| Marengo Creek | 150 (91.5) | 14 (8.5) | - | - | - | 178 |
| The Big Bend | 140 (95.2) | 6 (4.1) | 1 (0.7) | - | - | 155 |
| Deadman Valley | 133 (47.0) | 100 (35.3) | 47 (16.6) | 3 (1.1) | - | 486 |
| Kraus Hot Springs | 254 (81.2) | 26 (8.3) | 3 ( 0.9) | 16 (5.1) | 14(4.5) | 449 |

their stay in NNPR. Photography, 86.4%; hiking, 83.2%; sportfishing, 63.8%; and nature study, 55.0%; were the most common activities, participated in by park visitors. (Table 2-10).

There is some disparity in side activities between different transportation modes in the park. Canoeists and rafters hiked and photographed proportionately more often than powerboaters although, over one-half of powerboaters engaged in these activities. Among powerboaters, sport fishing was relatively more common (85.0%) than among rafters (43.9%) and canoeists (70.0%). Nature study was engaged in to a similar degree by persons using all transportation modes (Table 2-11).

### 2.2.6 Campsite Use

Visitors were asked to indicate which campsites were used during their trip through the park (Table 2-12). Virginia Falls was indicated to have been used by 77% of park visitors and thus the most highly used of all designated campsites. Kraus Hot Springs and Deadman Valley were also popular camping areas, used by 71% and 64% of park visitors, respectively. Campsites used the least included The Big Bend (34%) and Marengo Creek (35%) and Rabbitkettle Lake (45%).

In terms of length of stay at these campsite locations, the highest proportion of one night stays occurred at the Big Bend (95.2%), Marengo Creek (91.5%) and Kraus Hot Springs (81.2%). Camps for 2 nights or more occurred in the highest proportions at Virginia Falls (79.7%), Deadman Valley 53.0%) and Rabbitkettle Lake (36.9%). The longest campsite stays were reported at Kraus Hot Springs where 10% of campsite users indicated 4-5 nights at the site. Other longer term campsites were indicated to be

TABLE 2-13: PARTIES ENCOUNTERED DURING ENTIRE TRIP BY NAHANNI NATIONAL PARK RESERVE VISITORS, 1982

| | # | (%) |
|---|---|---|
| None | 33 | (7.3) |
| 1-3 | 129 | (28.8) |
| 4-6 | 174 | (38.8) |
| 7-9 | 48 | (10.8) |
| 10-12 | 46 | (10.3) |
| 15+ | 18 | ( 4.1) |
| Total | 449 | |

TABLE 2-14: SOURCES OF INFORMATION USED BY NAHANNI NATIONAL PARK RESERVE VISITORS, 1982

| Source | Canoe (%) | Raft (%) | Powerboat (%) | Totals |
|---|---|---|---|---|
| Previous Visit | 22 (9.4) | 4 (2.4) | - | 25 (5.7) |
| Friends | 114 (49.7) | 32 (21.6) | 39 (59.9) | 186 (41.6) |
| Nahanni Park | 116 (49.7) | 49 (32.9) | 9 (14.4) | 174 (38.9) |
| Other Parks | 41 (17.4) | 25 (16.6) | 2 (3.8) | 68 (15.2) |
| CGOT | 8 (3.3) | 12 (8.4) | - | 20 (4.5) |
| Media | 141 (60.3) | 106 (71.4) | 14 (22.0) | 261 (58.4) |
| Airline | 2 (0.9) | - | - | 2 (0.5) |
| Club | 51 (21.8) | 30 (20.2) | - | 81 (18.1) |
| Other | 64 (27.4) | 57 (38.2) | 24 (37.1) | 145 (32.4) |
| | 233 | 148 | 66 | 447* |

* 2 observations missing.

Deadman Valley and Virginia Falls with 17.7% and 11.7% of 3-4 night camps, respectively. The longer stays are likely related to off-river hikes, nature study, and climbs at these locations.

### 2.2.7 Parties Encountered On Trip

NNPR visitors were asked to estimate the numbers of parties they had encountered during their trip on the South Nahanni River. Only 7.3% of questionaire respondents reported no encounters and fully 64% of park users indicated more than 4 encounters during their trip (Table 2-13). Meeting of 1 to 3 parties during the trip was indicated by 28.8% of the sample population.

The average number of encounters reported by all park users was 5 parties/trip.

### 2.2.8 Source of Visitor Information on Trip

Questionaire respondents indicated that 58.4% of average park visitors received information on the park from the media. Friends/relatives accounted for 41.6% of information sources on the trip while Nahanni Park, itself, was used by prospective visitors in 38.9% of cases (Table 2-14). Other Parks Canada sources were also used by NNPR visitors (15.2%).

Canoeists and rafters solicited information from the park and Parks Canada staff to a greater degree than powerboaters. The vast majority of canoeists and rafters, as opposed to power-boaters, also learned about the park through the media. Canoeists and powerboaters relied on friends and relatives for information on the park to a greater extent than did rafters.

## 3.0 VISITOR PERCEPTIONS AND ATTITUDES

Questions on visitor perceptions of crowding, facility development, campsite locations, aircraft and powerboat excursions and satisfaction levels were explored in the 1982 Visitor Survey. Similarly, attitudes of park users to park management alternatives, other modes of transportation, high points, detractions and disturbing behaviour were also reflected in various questions. These findings have been applied to determine visitor perceptions of the Nahanni experience, what it should or could be, how it may be protected and how management could best plan for and accommodate different types of park users at NNPR.

### 3.1 Crowding in Nahanni National Park Reserve

One of the important questions in the survey related to the perception of crowding held by visitors to Nahanni in view of their expectations about the park (Table 3-1). Visitor perception of crowding reveals that groups felt that 3.02 parties per day were the maximum number before other parties were considered to create crowding. It is apparent, therefore, that more parties within the park are acceptable to the average park visitor. At an observed average of 5.09 groups per trip and a trip length of 11 days, approximately one group was met every two days. The average park visitor would tolerate 1-3 groups per day before experiencing crowding.

### 3.2 Limiting Visitation

Evidence of need to protect the park and avoid crowding in NNPR is illustrated by 65.7% of respondents reporting the need for limitations on visitation in the park (Table 3-2). Canoeists are

**TABLE 3-1: PERCEPTIONS OF CROWDING BY NAHANNI NATIONAL PARK RESERVE VISITORS, 1982**

| | # parties met per week (%) | estimated * parties met per day (%) | # parties constituting crowding per day (%) |
|---|---|---|---|
| None | 33 (7.3) | 0 | 22 (4.9) |
| 1-3 | 129 (28.8) | 0.2 | 333 (74.8) |
| 4-6 | 174 (38.8) | 0.45 | 42 (9.4) |
| 7-9 | 48 (10.8) | 0.73 | 36 (8.0) |
| 10-12 | 46 (10.3) | 0.82 | - |
| 15+ | 18 (4.1) | 1.36 | 12 (2.8) |
| Missing | - | - | 4 |
| Totals | 449 | | 449 |
| Averages | 5.09 | 0.40 | 3.02 |

* based on an average trip stay of 11 nights.

**TABLE 3-2: CORRELATION BETWEEN TRANSPORTATION MODE AND DESIRE TO LIMIT VISITATION TO NAHANNI NATIONAL PARK RESERVE, 1982.**

| | # of respondents and % in favour of limitation | Total N |
|---|---|---|
| Canoeing | 160 (70.0) | 229 (52.1) |
| Rafting | 92 (63.7) | 145 (33.0) |
| Powerboating | 36 (55.2) | 66 (14.9) |
| Totals | 288 (65.7) | 439* (100.0) |

* 10 cases missing

**TABLES 3-3: FIRST CHOICES FOR LIMITING VISITATION TO NAHANNI NATIONAL PARK RESERVE CORRELATED WITH TRAVEL MODE, 1982**

| | No choice | Limit Party Size | Reservation | Lottery | Quota | Other | Total |
|---|---|---|---|---|---|---|---|
| Canoeing | 82 (35.4) | 62 (26.8) | 46 (20.1) | 8 (3.5) | 25 (10.8) | 8(3.5) | 232 |
| Rafting | 49 (34.5) | 46 (32.6) | 26 (18.3) | 2 (1.7) | 13 (9.4) | 5(3.4) | 142 |
| Powerboating | 27 (41.8) | 18 (24.9) | 3 (4.6) | 2 (3.0) | 14 (21.9) | 2(3.8) | 66 |
| Total | 159 (36.7) | 125 (28.5) | 75 (17.1) | 13(2.4) | 53 (11.7) | 15(3.5) | 439* |

* 10 cases missing

most strongly in favour of limitations (70%), followed by rafters (63.7%) and powerboaters (55.2%).

Methods to limit visitor are, however, are less clear with 36.7% of the sample not indicating any choice. Limiting party size is advocated by 28.5% of respondents (Table 3-3). Less popular recommendations for controlling level of use include a reservation system (17.1%), quota (11.7%) and lottery (2.4%). Limiting party size is favoured by users of all transportation modes. Canoeists and rafters also favour a reservation system while powerboaters indicate greater support for a quota limit into the park.

## 3.3 Disturbing Behavior

As significant as numbers of parties met per day or during the whole trip are the reports of the nature and types of behavior that caused many encounters to be perceived as conflicts in use. Overall 75.6% of all respondents were not disturbed at all during their stay in NNPR. Of the visitors reporting disturbing behavior, the highest proportions of disturbances were related to camping behavior (62.0%). In particular, these disturbing activities were littering (12.7%), crowded camps and conflicting campsite behavior (34.1%) and noise either in camp or along the river (15.2%), (Table 3-4). Disturbances involved groups in excess of 20 people in 56.6% of reported incidents, primarily the army manoeuvres (Table 3-5).

Other incidents indicated to be disturbing involved jet/air boats and helicopters use (19.0%), inadequate skills or preparedness (8.7%), vandalism of park resources (5.0%) and commercial ventures (2.9%). It is probable that the majority of disturbances caused by 4-7 person parties (23.2%) were associated with jet boat operations.

TABLE 3-4: NATURE OF DISTURBANCES ENCOUNTERED IN NAHANNI NATIONAL PARK RESERVE, 1982

| Nature of Disturbance | | Frequency | % |
|---|---|---|---|
| Noise | | 12 | 15.2 |
| Garbage/littering | 8 | | |
| fish left to rot | 2 | 10 | 12.7 |
| Jet/airboats | 11 | | |
| bushplanes | 1 | | |
| helicopters | 3 | 15 | 19.0 |
| Camping behavior | 8 | | |
| left lit fires | 4 | | |
| fire building | 1 | 13 | 16.5 |
| Group crowding | 8 | | |
| deteriorated campsites | 1 | | |
| army behavior | 5 | 14 | 17.7 |
| Not prepared for trip | 1 | | |
| dangerous canoing behavior | 5 | 6 | 8.7 |
| Defacing cliff faces | 1 | | |
| killing wildlife | 2 | | |
| over fishing | 1 | 4 | 5.8 |
| Commercial intrusion | | 2 | 2.9 |
| forest fire fighting | 1 | | |
| accessibility to VF | 1 | | |
| carrying guns | 1 | 3 | 3.8 |
| TOTALS | | 79 | 100.0 |

TABLE 3-5: SIZES OF GROUPS CREATING DISTURBANCES IN NAHANNI NATIONAL PARK REVENUE, 1982

| Size Group | Frequency | % |
|---|---|---|
| 1-3 persons | 21 | 14.4 |
| 4-7 | 29 | 19.9 |
| 8-11 | 16 | 10.9 |
| 12-15 | 8 | 5.5 |
| 20-29 | 23 | 15.8 |
| 30+ | 48 | 32.9 |
| Other | 1 | 0.6 |
| Totals | 146 | 100.0 |

The location of disturbing behaviour was reported as Virginia Falls in 32% of those indicating disturbances, followed by Kraus Hot Springs with 28.1% of incidents. Virtually all disturbances were reported to have occurred at or downstream of Virginia Falls and 13.7% of those were at Nahanni Butte, outside of the park (Table 3-6). In general, reports of unsafe practices commonly occurred in the vicinity of rapids, overcrowding was attributable to the presence of the army tour groups and canoeists at designated campsites, and disturbances related to helicopter use were created by the army. Noise disturbances correlated with overcrowding at sites, almost exclusively at or below Virginia Falls, and with powerboating below Virginia Falls.

Investigation of the correlation between travel mode and perception of disturbance reveals that canoeists reported the highest incidence of disturbing behavior, followed by powerboaters and rafters, in that order. It is apparent that army manoeuvres constituted a common disturbance to rafters and canoeists and, in fact, the only disturbance experienced by powerboaters in the park (Table 3-7).

The most common disturbance reported by rafters and canoeists was powerboats/aircraft. Canoeists were the only park users to complain about noise, unsafe practises, commercial ventures. Overall, it is indicated that canoeists and rafters see power craft users as disturbances while canoeists tend to regard commercial rafters and larger groups as disturbances. Powerboaters do not regard canoeists or rafters as disturbances per se.

**TABLE 3-6: LOCATIONS OF DISTURBING BEHAVIOR IN NAHANNI NATIONAL PARK RESERVE, 1982**

| Locations | Frequency | % |
|---|---|---|
| Nahanni Butte | 21 | 13.7 |
| Kraus Hot Springs | 43 | 28.1 |
| Virginia Falls | 49 | 32.0 |
| Figure 8 Rapids | 3 | 2.0 |
| Deadman Valley | 9 | 5.9 |
| Other | 28 | 18.3 |
| Totals | 153 | 100.0 |

**TABLE 3-7: TRAVEL MODE CORRELATED WITH NATIVE OF DISTURBANCE IN NAHANNI NATIONAL PARK RESERVE, 1982**

| | Canoe | Raft | Powerboat | (%) Totals |
|---|---|---|---|---|
| Army Manouveres | 15 (15.8) | 6 (18.8) | 14 (100.0) | 32 (22.7) |
| Garbage | 7 (7.4) | 3 (9.4) | - | 10 (7.1) |
| Noise | 15 (15.8) | - | - | 15 (10.6) |
| Vandalism | 6 ( 6.3) | - | - | 6 (4.3) |
| Powercraft | 19 (20.0) | 11 (34.4) | - | 30 (21.3) |
| Unsafe practises | 13 (13.7) | - | - | 13 (9.2) |
| Overcrowding | 12 (12.6) | 10 (31.2) | - | 22 (15.6) |
| Other | 8 (8.4) | 2 (6.2) | - | 10 (7.1) |
| Total | 95(100.0) | 32(100.0) | 14 (100.0) | 141(100.0) |

TABLE 3-8: CORRELATION BETWEEN RECREATION ACTIVITY AND NATURE OF DISTURBANCES EXPERIENCED IN NAHANNI NATIONAL PARK RESERVE, 1982

| Nature of Disturbances | Hiking | Climbing | Sport Fishing | Nature Study | Photography | Other | Total |
|---|---|---|---|---|---|---|---|
| Army | 32 (23.9) | - | 26 (25.2) | 29 (21.3) | 32 (26.0) | 1 (12.5) | 120 (23.7) |
| Garbage | 10 (7.5) | - | 8 (7.8) | 10 (7.4) | 10 (8.1) | - | 38 (7.5) |
| Noise | 15 (11.2) | - | 11 (10.7) | 13 (9.6) | 13 (10.6) | - | 52 (10.3) |
| Vandalism | 7 (5.2) | - | 5 (4.9) | 4 (2.9) | 7 (5.7) | - | 23 (4.5) |
| Powerboats/aircraft | 24 (17.9) | - | 20 (19.4) | 15 (11.0) | 21 (17.1) | 4 (50.0) | 84 (16.6) |
| Unsafe practises | 14 (10.4) | - | 12 (11.7) | 9 (6.6) | 12 (9.8) | 1 (12.5) | 48 (9.5) |
| Overcrowded | 22 (16.4) | 1 (50.0) | 13 (12.6) | 49 (36.0) | 18 (14.6) | 1 (12.5) | 104 (20.6) |
| Other | 10 (7.5) | 1 (50.0) | 8 (7.7) | 7 (5.1) | 10 (8.1) | 1 (12.5) | 37 (7.3) |
| Total | 134(100.0) | 2(100.0) | 103(100.0) | 136(100.0) | 123(100.0) | 8(100.0) | 506(100.0) |

TABLE 3-9: VISITORS INDICATING DIMINISHMENT OF ENJOYMENT DUE TO PRESENCE OF POWERBOATS AND AIRCRAFT IN NAHANNI NATIONAL PARK RESERVE, 1982

| | Presence of Powerboats (%) | Presence of Aircraft (%) |
|---|---|---|
| Diminished enjoyment | 210 (48.6) | 127 (29.0) |
| Did not diminish enjoyment | 222 (51.4) | 309 (71.0) |
| Missing | 17 | 13 |
| Total | 449 | 449 |

TABLE 3-10: CORRELATION OF TRAVEL MODE WITH DIMINISHMENT OF EXPERIENCE IN NAHANNI NATIONAL PARK RESERVE, 1982

| | N | Enjoyment diminished by powerboats (%) | N | Enjoyment diminished by aircraft (%) |
|---|---|---|---|---|
| Canoe | 231 | 145 (63.0) | 225 | 80 (35.6) |
| Raft | 135 | 64 (47.6) | 148 | 47 (31.6) |
| Powerboats | 66 | - | 63 | - |
| Totals | 431 | 210 (48.6) | 436 | 127 (29.0) |

The breakdown between park user disturbances and the type of activities engaged in reveals that different activity modes had different perceptions of offending behavior, as well. (Table 3-8). Hikers and sports fishermen were most affected by powerboats, aircraft and army manoeuvres. Overcrowding was most disturbing to nature observers and hikers. Reports of noise, garbage, vandalism, and unsafe practises occurred among all types of recreationists and activity modes.

## 3.4 Effect of Powerboats and Aircraft on Park Users

As noted above in section 3.3, powerboating was reported as a disturbance in 19% of responses indicating disturbances while in the park. Overall, 48.6% of visitors indicated that their enjoyment was diminished by the presence of powerboats during their trip (Table 3-9). The corresponding figures respecting aircraft use were 29%. Some respondents did note however, that the presence of powerboats was regarded as a necessary inconvenience for the purposes of safety, supervision, and for those unable to use unmotorized transport.

In terms of response to aircraft/powercraft segregated by mode of travel within the park, canoeists were the user group most strongly affected by powerboats (63%) and aircraft (35.6%). Rafters were also significantly affected by powerboats (47.6%) and aircraft (31.6%). Powerboaters were not negatively impacted by the presence of either other powerboats or aircraft.

Respondents were asked to select measures which they felt would control powerboat and aircraft use in the park. Of the 48.6% who advocated measures to limit powerboating, 56.1% recommended that powerboats not be allowed into the park at all. (Table 3-11). A

TABLE 3-11: FIRST CHOICES FOR CONTROLLING POWERBOAT TRAFFIC CORRELATED WITH TRAVEL MODE IN NAHANNI NATIONAL PARK RESERVE, 1982. (%)

| Travel mode | No measures | Certain areas only | Limit number | Outfitters only | Private individuals | Not allowed | Limited to Park Staff | Total |
|---|---|---|---|---|---|---|---|---|
| Canoe | 89 (38.8) | 19 (8.4) | 11 (4.9) | 10 (4.2) | 2 (0.7) | 80(34.8) | 19 (8.1) | 230 |
| Raft | 77 (51.9) | 9 (6.3) | 8 (5.6) | 3 (2.3) | 3 (1.7) | 39(26.6) | 8 (5.6) | 148 |
| Powerboat | 66(100.0) | - | - | - | - | - | - | 66 |
| Totals | 232 (52.2) | 29 (6.5) | 20 (4.4) | 13 (3.0) | 4 (0.9) | 119 (26.9) | 27 (6.1) | 444 |

TABLE 3-12: FIRST CHOICES FOR CONTROLLING AIRCRAFT TRAFFIC CORRELATED WITH TRAVEL MODE IN NAHANNI NATIONAL PARK RESERVE, 1982. (%)

| | No Measures | Certain areas only | Limit Numbers | Outfitters Only | Not Allowed | Park Staff Only | Total |
|---|---|---|---|---|---|---|---|
| Canoe | 144 (64.1) | 31 (13.8) | 8 (3.4) | 23 (10.3) | 13 (5.8) | 6 (2.6) | 225 |
| Raft | 101 (68.4) | 18 (12.0) | 22 (15.0) | 2 (1.6) | 1 (0.7) | 3 (2.3) | 148 |
| Powerboat | 63 (96.2) | 3 (3.8) | - | - | - | - | 66 |
| Totals | 309 (70.4) | 51 (11.7) | 30 (6.8) | 26 (5.8) | 14 (3.2) | 9 (2.1) | 439 |

TABLE 3-13: NEED FOR FACILITY DEVELOPMENT CORRELATED WITH TRAVEL MODE IN NAHANNI NATIONAL PARK RESERVE, 1982.

| | Visitors favouring development (% of total) | N |
|---|---|---|
| Canoe | 111 (48.6) | 228 |
| Raft | 68 (46.2) | 148 |
| Powerboat | 53 (86.9) | 61 |
| Total | 232 (53.2) | 437* |

* 12 cases missing.

further 13.7% preferred restrictions in certain areas, 12.7% thought powerboats should be limited to park staff and 9.6% recommended limiting numbers. It should be noted that powerboaters did not favour any restrictions on powerboat use.

Reaction to aircraft in NNPR reveals that of the 29% advocating aircraft restrictions, 39.2% felt aircraft should be restricted to certain areas or corridors of the park (Table 3-12). Other responses indicated that 23.1% favoured limiting numbers of aircraft and 20% thought that aircraft should be restricted to outfitters. Only 10.8% recommended that aircraft not be allowed into the park and this result is undoubtedly related to the fact that virtually all canoeists/rafters in NNPR are air-lifted to their start points.

Comparison of travel mode with recommended limitations on aircraft reveals that powerboaters were least inclined to limit aircraft access other than to certain areas of the park. Canoeists were the most affected by aircraft, feeling that they be restricted to certain areas (38%) and secondly, limited to outfitter use (28.4%). Those rafters who favoured controls on aircraft (31.6%) favoured control of access within the park (39.1%) and limits on numbers (47.8%).

## 3.5 Need For Facility Improvements

53.2% of the sample population indicated the need for improved facilities at NNPR (Table 3-13). In terms of segregation by travel mode, powerboaters were the most in favour (86.9%) with canoeists and rafters roughly split on the question of more development (ie. 48.6% and 46.2%, respectively).

TABLE 3-14: TYPES OF FACILITY IMPROVEMENTS DESIRED BY VISITORS TO NAHANNI NATIONAL PARK RESERVE, 1982.

| Type of Improvement | Frequency | Category Total | ( % ) |
|---|---|---|---|
| 1. Facility Improvements | | | |
| repair Failles' cabin | 2 | | |
| all weather portage trails | 1 | | |
| water well at VF | 1 | | |
| better door on outhouses | 1 | | |
| boardwalks on VF portage | 1 | | |
| blazed trails | 6 | | |
| unmanned visitor center | 1 | | |
| radio equipped emergency shelters | 2 | | |
| emergency schedules | 1 | | |
| portage trails for upstream travel | 1 | | |
| sale of photographs and slides | 1 | | |
| garbage burning facilities | 1 | | |
| more and larger campgrounds | 4 | | |
| access to restricted areas | 13 | | |
| campgrounds at Nahanni B. | 6 | | |
| gasoline vendors along route | 4 | | |
| improve Kraus Hot Spring | 1 | | |
| promote other activites (skiing) | 2 | | |
| provide bear proof caches | 4 | 53 | (47.3) |
| 2. Information Improvements | | | |
| Information on burned out areas | 1 | | |
| Information on canoeing | 1 | | |
| better and larger scale maps | 3 | | |
| information on forest fires | 2 | | |
| information on plant/animal life | 1 | | |
| indication of off-river trails | 1 | | |
| interpretive information on trails | 2 | | |
| history of area | 2 | | |
| information on negotiating rapids upstream | 1 | | |
| information on hiking, campsites and interest points | 7 | | |
| distance markers | 1 | | |
| illustrated manual for area | 3 | | |
| information on Fort Liard to Fort Simpson reach | 4 | | |
| education on no-trace camping | 1 | 30 | (26.8) |
| 3. Better Quality Wilderness | | | |
| Do patrols in canoes | 1 | | |
| restrict easy access to park | 6 | | |
| no wilderness camps | 1 | | |
| extend park | 11 | | |
| limit noise levels of watercraft | 1 | | |
| use fire-pans | 1 | | |
| do not mark trails | 1 | | |
| create unobtrusive outhouses | 1 | | |
| reverse campground development | 2 | 25 | (22.3) |
| 4. Management of User Conflicts | | | |
| have a powerboat season | 1 | | |
| not allow army manoeuvres in park | 1 | | |
| control size and number of groups at VF | 1 | 3 | (2.7) |
| 5. Do nothing | 1 | 1 | (0.9) |
| Totals | | 112 | (100.0) |

The types of facilities favoured by park users include trails, access to restricted areas, campgrounds at Nahanni Butte, gasoline vendors along the route, and larger campgrounds at designated campsites. Facility developments represent 47.3% of all requests for facility improvements. As well, more information was requested on trails, topography, forest fire situations, history, hiking and other park activites. Requests for information improvements constituted 20.8% of all facility improvements. (Table 3-14).

A substantial number of questionaire respondents also indicated improvements in managing NNPR as a wilderness area and in managing/minimizing user conflicts in the park.

Better quality wilderness and management suggestions accounted for approximately 20% of all responses to the question of facility improvements.

Breakdown of type of facility improvements with respect to travel mode indicates that blazed trails was requested the most often by the average NNPR user in all travel modes (Table 3-15). Need for emergency provisions and more campground development were also indicated to be important secondary considerations among powerboaters. In contrast, rafters and canoeists expressed the need for more (better) trip information as their second priority for facility improvement.

Questionaire respondents were also asked if camping should take place at designated campgrounds or anywhere along the river. The vast majority (83.4%) were of the opinion that camping areas should not be designated, with a significant number feeling that designated camping detracted from the wilderness experience.

TABLE 3-15: TYPES OF FACILITY IMPROVEMENTS DESIRED IN NAHANNI NATIONAL PARK RESERVE CORRELATED WITH TRAVEL MODE, 1982. (%)

| Type of facility improvement desired | Canoe | Raft | Powerboat | Total |
|---|---|---|---|---|
| Campground | 14 (6.4) | 9 (6.3) | 13 (21.2) | 37 (8.4) |
| Trails | 47 (20.7) | 42 (28.8) | 24 (39.0) | 113 (26.0) |
| Emergency | 19 (8.3) | 8 (5.4) | 12 (20.4) | 39 (9.0) |
| Trip Information | 29 (3.1) | 22 (15.1) | 10 (16.3) | 62 (14.2) |
| Park Information | 14 (6.4) | 10 (7.0) | 5 (8.2) | 30 (6.9) |
| Other | 34 (15.1) | 11 (7.4) | 19 (31.6) | 64 (14.8) |
| Total | 225(100.0) | 147(100.0) | 61(100.0) | 437* |

* 12 cases missing.

TABLE 3-16: MOTIVATING FACTORS FOR PARK VISITORS TO NAHANNI NATIONAL PARK RESERVE, 1982.

| | Motivating factor | | Frequency | (%) |
|---|---|---|---|---|
| 1. | Literature, films, TV media | | 47 | (8.8) |
| 2. | Friends | | 27 | (5.1) |
| 3. | Reputation of region | 9 | | |
| | whitewater canoeing | 67 | | |
| | unique land forms and geolgoy | 46 | | |
| | scenery | 46 | | |
| | wilderness experience/activities | 71 | | |
| | legend/history | 29 | | |
| | mystique of Nahanni | 6 | | |
| | beauty of region | 23 | | |
| | wildlife | 15 | | |
| | river itself | 12 | | |
| | previous visit | 2 | 326 | (61.2) |
| 4. | Northern/Natural experience | 16 | | |
| | remoteness of park | 26 | | |
| | isolation/solitude | 22 | | |
| | adventure | 15 | | |
| | challenge | 17 | | |
| | love of outdoors | 6 | | |
| | lack of facilities | 4 | | |
| | privacy | 1 | | |
| | exploration | 5 | | |
| | spiritual/mental/physical improvement | 3 | | |
| | cleaness | 1 | 116 | (21.8) |
| 5. | Acquire guide license | 1 | | |
| | business | 4 | | |
| | one of northern parks | 2 | | |
| | one of rivers visited | 2 | | |
| | see park before too crowed | 6 | | |
| | proximity to residence | 1 | | |
| | fun of organizing expedition | 1 | 17 | (3.2) |
| Totals | | | 533 | (100.0) |

Unsolicited responses to this question included recommendations to permit only "below high water level" camping, educate visitors in no trace camping and reduce group sizes on the river to alleviate pressure on camping areas.

## 3.6 Motivation for Visiting NNPR

Out of the total sample population, 99.6% of respondents indicated their motivations for visiting Nahanni NPR. By far, the most common motivation for visiting the park related to the repetition of its sights, scenery, wilderness, history and river (61.2%). The second major inducement drawing visitors to the park related to the value of the wilderness experience, the outdoors, adventure, remoteness and isolation (21.8%). Literature, films and other media motivated 8.8% of park visitors while friends were indicated as a motivating factor for 5.1% of the sample (See Table 3-16). A further 3.2% of the responses indicated that the park had been visited for business, as a leg or portion of a trip or other reason unrelated to the park's atmosphere, reputation or significance.

Motivations for visiting NNPR varied with the transportation mode utilized by visitors in the park (Table 3-17). Among canoeists whitewater, (19.1%) wilderness, (18.0%) media, (17.6%) and scenery (16.9%) were the prime motivaters for the trip. Rafters indicated wilderness (25.7%) media (20.1%) and scenery (18.3%) as the most common motivations for visiting the Nahanni National Park Reserve.

Powerboaters were attracted primarily by the wilderness (34%) and scenery (30.9%) of the area. Overall, the prime motivations of the average visitor for visiting the park were wilderness (22.6%), media (19.2%) and scenery (10.8%).

TABLE 3-17: MOTIVATIONS FOR VISITING NAHANNI NATIONAL PARK RESERVE CORRELATED WITH TRAVEL MODE IN THE PARK, 1982

| Motivating facters | Canoe | Raft | Powerboat | Total |
|---|---|---|---|---|
| Wilderness | 88 (18.0) | 73 (25.7) | 33 (34.0) | 194 (22.6) |
| Books/Media | 86 (17.6) | 60 (21.1) | 19 (19.6) | 165 (19.2) |
| Preocius Visit | 4 (0.8) | 4 ( 1.4) | 6 ( 6.2) | 14 (1.3) |
| Scenery | 79 (16.2) | 52 (18.3) | 30 (30.9) | 161 (18.8) |
| Personal Challenge | 35 (7.2) | 18 (6.3) | 2 (2.1) | 55 (6.7) |
| Whitewater Canoeing | 93 (19.1) | 10 (3.5) | - | 103 (11.9) |
| Seclusion | 23 (4.7) | 20 (7.0) | 2 (2.1) | 45 (5.4) |
| Other | 73 (15.0) | 47 (16.5) | 5 (5.1) | 125 (13.9) |
| Totals | 488 | 284 | 97 | 869 |

TABLE 3-18: HIGHLIGHTS OF TRIPS BY NAHANNI NATIONAL PARK RESERVE VISITORS IN 1982

| | Highlight Factors | Frequency | Category Total | (Percent) |
|---|---|---|---|---|
| 1. | hiking Prairie Creek | 11 | | |
| | hiking Dry Canyon Creek | 16 | | |
| | general hiking | 9 | | |
| | hike to Glacier Lake | 7 | | |
| | hike to Deadman Valley | 16 | | |
| | hike to Secret Lakes | 3 | | |
| | hike up Scow Creek | 5 | | |
| | climb on Mt. McBrien | 2 | | |
| | access to hikes off-river | 9 | | |
| | Mt. Wilson | 1 | | |
| | White Spray Spring | 4 | | |
| | Rock Gardens | 2 | | |
| | hike in Headless Range | 3 | | |
| | Sunblood Climb | 4 | | |
| | Cirque of unclimbables | 2 | | |
| | Twisted Mountain | 1 | | |
| | Ragged Range | 1 | | |
| | Pulpit Rock | 10 | | |
| | Wrigley Creek | 1 | 107 | (15.4) |
| 2. | Whitewater | 25 | | |
| | canyons | 59 | | |
| | riffles and rapids | 15 | | |
| | 5 mile canyon | 4 | | |
| | 1st canyon | 16 | | |
| | river itself | 19 | | |
| | Hell's Gate | 5 | | |
| | 3rd canyon | 2 | | |
| | 4th canyon | 3 | | |
| | 2nd canyon | 1 | | |
| | Figure 8 | 4 | | |
| | Cache Rapids | 1 | | |
| | Little Nahanni Rapids | 2 | | |
| | Flat River | 2 | | |
| | The Gate | 18 | 176 | (25.4) |

| | | | | |
|---|---|---|---|---|
| 3. | Whole experience | 8 | | |
| | excitement | 2 | | |
| | wilderness | 13 | | |
| | solitude | 13 | | |
| | beauty of country | 59 | | |
| | isolation | 11 | | |
| | sunsets/sunrises | 3 | | |
| | undeveloped nature | 8 | | |
| | mystique | 1 | | |
| | northern lights | 1 | | |
| | clean air and water | 2 | 121 | (17.5) |
| 4. | Features | | | |
| | geology | 11 | | |
| | history | 3 | | |
| | mountains | 7 | | |
| | wildlife | 31 | | |
| | absence of people | 10 | | |
| | caves | 1 | | |
| | plant life | 4 | 67 | (9.7) |
| 5. | Sights | | | |
| | Marengo Falls | 8 | | |
| | Virginia Falls | 107 | | |
| | Kraus Hot Springs | 19 | | |
| | Rabbitkettle Hot Springs | 23 | | |
| | Tuffa mounds | 9 | | |
| | Island Lake Hot Springs | 1 | | |
| | Moose Ponds | 5 | 172 | (24.8) |
| 6. | Activities | | | |
| | Swim in Rabbitkettle Lake | 1 | | |
| | fishing and eating fish | 13 | | |
| | photography | 3 | | |
| | freedom of travel | 1 | 18 | (2.6) |
| 7. | Park Staff | 19 | 19 | (2.7) |
| 8. | Other | | | |
| | Reading log books | 1 | | |
| | availability of information | 1 | | |
| | facilities | 1 | | |
| | forest fire | 1 | | |
| | guides and expedition | 1 | | |
| | friendship | 7 | | |
| | flight | 1 | 13 | (1.9) |
| | Totals | | 693 | (100.0) |

## 3.7 Highlights of the NNPR Trip

Respondents were asked to list highlights of the Nahanni visit. In terms of the whole sample, the river and canyons were the most commonly named highlights of the trip (25.4%) followed closely by specific sights within NNPR (24.8%). The quality of the experience in regard to scenery, beauty and solitude were indicated in 17.5% of responses (See Table 3-18). Hiking up the various off-river trails to a variety of destinations within the park represented highlights for 15.4% of the sample while general features, such as geology, wildlife, history, mountains, accounted for 9.7% of responses.

The residual responses to indicating the highlights of NNPR trip fell into miscellaneous activity categories (2.6%), friendship, organization and expedition aspects of the trip (1.9%) and park staff (2.7%).

In terms of travel mode correlated with trip highlights, canoeists predominated in identifying park staff as trip highlights (Table 3-19). Canoeist and rafters were more impressed with Virginia Falls than were powerboaters while powerboaters indicated Kraus Hot Spings as a highlight proportionately more often than canoeists or rafters. Canoeists and powerboaters reported scenery to be a more significant highlight than did rafters. Finally, recreation activities were indicated to be a highlight more frequently among canoeists than either rafters or powerboaters.

It should be noted that a significant number of highlights were located or experienced outside of park boundaries. The most popular of these were Glacier Lake, Cirque of the Unclimbables, Moose Ponds and the Little Nahanni River.

**TABLE 3-19: HIGHLIGHTS OF NAHANNI NATIONAL PARK RESERVE CORRELATED WITH VISITOR TRAVEL MODE IN THE PARK, 1982**

| Highlight Factors | Canoe | Raft | Powerboat | Total |
|---|---|---|---|---|
| Virginia Falls | 113 (20.5) | 73 (22.3) | 4 (4.1) | 190 (20.7) |
| Kraus Hot Springs | 20 ( 3.6) | 14 (4.3) | 20 (20.4) | 54 ( 5.9) |
| Recreation Activities | 57 (10.4) | 26 (8.0) | 2 (2.0) | 85 ( 9.3) |
| Scenery | 79 (14.4) | 17 (5.2) | 12 (12.2) | 108 (11.8) |
| Canyons | 79 (14.4) | 41 (12.5) | 24 (24.5) | 144 (15.7) |
| Park Staff | 17 ( 3.1) | 10 (3.1) | - | 27 (2.9) |
| Moose Ponds | 6 ( 1.1) | - | - | 6 (0.7) |
| Other | 177 (32.2) | 91 (27.8) | 36 (36.7) | 304 (33.1) |
| Totals | 548 (100.0) | 272 (100.0) | 98 (100.0) | 918 |

**TABLE 3-20: DETRACTIONS EXPERIENCED BY VISITORS TO NAHANNI NATIONAL PARK RESERVE, 1982**

| Detracting factors | Frequency | Category Total | (Percent) |
|---|---|---|---|
| 1. Need for better information | | | |
| interpretation of history | 2 | | |
| lack of visual information | 1 | | |
| river too easy | 1 | | |
| no navigation information in certain areas | 1 | | |
| burned out areas | 3 | | |
| guides not knowledgeable about park | 1 | | |
| trail markers and information | 2 | | |
| tour brocheure misleading | 1 | | |
| lack of whitewater | 4 | | |
| unskilled canoeists and campers | 3 | 19 | (9.7) |
| 2. Overuse | | | |
| too many groups | 26 | | |
| groups too large | 7 | | |
| absence of aquatic life | 1 | | |
| too many people on river | 2 | | |
| poor fishing | 4 | | |
| campsite deterioration | 1 | | |
| lack of wildlife | 14 | 55 | (28.1) |
| 3. User conflicts | | | |
| fear of development | 1 | | |
| powerboaters | 18 | | |
| army | 8 | | |
| aircraft | 6 | | |
| commercial rafting tours | 4 | | |
| different modes of use at some sites | 1 | 38 | (19.4) |

| | | | | |
|---|---|---|---|---|
| 4. | Administration and Management | | | |
| | too big a campsite at Virginia Falls | 1 | | |
| | inaccessible areas of park | 8 | | |
| | picnic facilities too developed | 13 | | |
| | other facilities desired | 5 | | |
| | difficult exit from park | 1 | | |
| | poor campground at Nahanni Butte | 11 | | |
| | park too small | 2 | | |
| | unused outfitter camps | 1 | | |
| | deterioration of Paille's cabin | 1 | | |
| | poor location of Rabbitkettle campsite | 1 | | |
| | price of fuel and trip | 1 | | |
| | powerboat inaccesibility to certain areas | 1 | | |
| | restrictive rules | 3 | | |
| | dirty campsites | 1 | | |
| | deteriorated bldgs. in park | 2 | | |
| | park staff | 4 | | |
| | debris at Moore's Chin | 3 | | |
| | no nature services | 1 | | |
| | too many park staff | 1 | 61 | (31.1) |
| 5. | User behavior | | | |
| | garbage | 7 | | |
| | industry upstream | 1 | | |
| | oil drums at Glacier Lake | 1 | 9 | (4.6) |
| 6. | Other | | | |
| | Trip too short | 1 | | |
| | uncertainty of access to the park | 1 | | |
| | smoke from fires | 12 | 14 | (7.1) |
| Totals | | | 196 | (100.0) |

## 3.8 Detractions Along Trip

Survey participants were asked to indicate any factors that detracted from their experience in NNPR. The greatest number of responses were received in regard to the administration and management of the park (31.1%). In particular, access to presently inaccessible areas was mentioned as were over development of facilities at designated campsites, absence of nature interpretative service, activities of park staff and location or maintenance of park facilities (See Table 3-20).

Overuse of specific areas along the river was indicated by 28% of the sample. The specific aspects of overuse were represented as the following: too many groups, groups too large, absence of wildlife and too many people on river. User conflicts, which may or may not be related to level of use of the park was indicated by 19.4% of responses. Particular detractions were powerboats, the army behavior, aircraft and commercial rafting tours.

10.2% of respondents suggested that their trip was detracted from by lack of adequate trip information. The need was indicated for better information on the park's features, park history, forest-fire conditions and expectations of the park experience.

Residual categories included detracting visitor behavior (4.6%) uncontrollable detractions such as mosquitoes and smoke from forest fires (7.1%). These last two items do, however, have potential implications for siting of campsites and access to the park during forest fires.

On average, detractions were experienced by 85.3% of the visitor population. Correlated with travel mode, 87.1%, 95.6% and 53.3%

TABLE 3-21: DETRACTIONS REPORTED BY VISITORS TO NAHANNI NATIONAL PARK RESERVE, 1982 CORRELATED WITH TRAVEL MODE

| Detracting Factor | Canoe | Raft | Powerboat | Total |
|---|---|---|---|---|
| No camps at Nahanni Butte | 10 (4.5) | 8 (5.6) | - | 18 (4.6) |
| Smoke from Fires | 19 (8.6) | 2 (1.4) | - | 21 (5.4) |
| Presence of Army | 12 (5.4) | 11 (7.7) | - | 23 (5.9) |
| Powerboats | 23 (10.4) | 7 (4.9) | - | 30 (7.7) |
| Overcrowding | 36 (16.3) | 20 (14.1) | - | 56 (14.3) |
| Garbage | 13 (5.9) | 1 (0.7) | - | 14 (3.6) |
| Lack of wildlife | 14 (6.3) | 13 (9.2) | - | 27 (6.9) |
| Other | 94 (42.5) | 80 (56.3) | 28 (100.0) | 202 (51.7) |
| Totals | 221(100.0) | 142(100.0) | 28 (100.0) | 391 |

of canoeists, rafters and powerboaters indicated detractions, respectively (Table 3-21). Overcrowding, lack of wildlife and aquatic life, and conflicts with powerboating were most often expressed by rafters and canoeists. Powerboaters did not consider canoeist and rafter activities as detracting from their experience but considered the provision of powerboating information, gas sales, greater accessibility, and off river trail markers as facilities needed to improve their experiences.

The type of experience generated at NNPR was an underlying concern of many of the canoeist and rafters responding to the survey. Thus, use of powerboats, day use of Virginia Falls and large commercial tours were perceived as uses of the park conflicting with the essence of the rugged country, wilderness experience and search for solitude. Similarly, provision of park facilities was perceived as desireable by many groups seeking adventure and scenery while such services were regarded as undesireable by more "purist" park users.

## 3.9 Trip Satisfaction

In spite of the large number of solicited comments on disturbances and detraction of the Nahanni experience, the overwhelming majority of park users indicated satisfaction with their trip. Specifically, 64.6% of respondents reported that the trip exceeded their expectations while a further 34% expressed satisfaction with visiting NNPR. This leaves only 3 (1.4%) individuals who reported dissatisfaction with their trips.

## 4.0 EXPENDITURE IMPACT OF NAHANNI TOURIST ACTIVITY IN THE N.W.T.

### 4.1 Travel Routes to the Park

As noted in Table 4-1, the route of entry into Nahanni varies substantially with the mode of transport in the park. The routes favoured by rafters and canoeists bring visitors in by air to Watson Lake and occurred for 73.3% and 34.9% of visitors, respectively. Other common access routes to the park by canoeists include the MacKenzie Highway to Fort Simpson (24.2%) and by air to Fort Simpson (34.9%). The favoured routes used by powerboaters to access Nahanni National Park Reserve were along the McKenzie Highway and Liard Highway to Blackstone Landing (33.3%) and by road to Fort Nelson (22.8). Overall, 49.6% of all visitation to Nahanni National Park Reserve is staged from Watson Lake and does not contribute to the regional economy of N.W.T. A further 3.8% of park visitation is generated out of Fort Nelson. Overall, an estimated 34.9% of 1982 Nahanni visitors approached the park from the east side with the remainder 65.1% accessing the park from the south.

### 4.2 Expenditures in Canada and the N.W.T.

Overall expenditures by visitors to NNPR, correlated with travel mode and route to the park, indicate that 419 Nahanni visitors spent $537,000 in Canada in 1982 of that sum, 30% or $165,875 was expended directly into the N.W.T. economy (see tables 4-2 and 4-3). In terms of expenditures in Canada by travel mode, canoeists expended the largest volume of dollars but were outspent by rafters, who recorded the highest value per person (Table 4-4).

Canoeists were the only Nahanni National Park reserve visitors to approach the area via Tungsten. Together with rafters, canoeists

TABLE 4-1: ACCESS ROUTES TO NAHANNI NATIONAL PARK RESERVE CORRELATED WITH TRAVEL MODE IN THE PARK, 1982. (8)

| Route | Canoe | Raft | Powerboat | Totals |
|---|---|---|---|---|
| McKenzie Hwy. to Fort Simpson | 57 (24.2) | 16 (10.6) | 12 (19.0) | 85 (18.9) |
| Alaska Hwy to Watson Lake | 11 (4.9) | 20 (13.8) | - | 32 (7.1) |
| Road to Fort Nelson | 2 (0.9) | - | 15 (22.8) | 17 (3.8) |
| Road to Tungsten | 17 (7.4) | - | - | 17 (3.9) |
| MacKenzie and Liard Hwys to Blackstone River | - | - | 22 (33.3) | 22 (4.9) |
| Air to Fort Simpson | 48 (20.5) | - | 2 (3.0) | 50 (11.1) |
| Air to Watson Lake | 81 (34.9) | 109 (73.3) | - | 190 (42.5) |
| Other | 17 (7.2) | 3 (2.3) | 14 (21.9) | 35 (7.7) |
| Total | 223 (52.2) | 148 (3.1) | 66 (14.7) | 447 |

TABLE 4-2: OVERALL EXPENSES IN CANADA CORRELATED WITH TRAVEL MODE AND ROUTE TO NAHANNI NATIONAL PARK RESERVE, 1982. (Numbers of Individuals)

| | MacKenzie Hwy. to Fort Simpson | Alaska Hwy. to Watson Lake | Road to Fort Nelson | Road to Tungsten | MacKenzie and Liard Hwy. to Blackstone R. | Air to Fort Simpson | Air to Watson Lake | Other | Total |
|---|---|---|---|---|---|---|---|---|---|
| Canoe | $42,149.58 (50) | $ 9718.00 (9) | $1717.00 (2) | $19,529.44 (17) | - | $71,306.31 (48) | $139,516.88 (75) | $15,755.14 (17) | $299,692.38 (218) |
| Raft | 11,791.92 (16) | 33,675.00 (20) | - | - | - | - | 160,182.44 (96) | 8944.00 (3) | 214,593.31 (135) |
| Powerboat | 6,038.25 (12) | - | 4975.02 (12) | - | 8979.25 (22) | 1200.00 (2) | - | 1578.50 (14) | 22,771.02 (63) |
| Total | 59,979.75 (78) | 43,392.99 (29) | 6692.02 (14) | 19,529.44 (17) | 8979.25 (22) | 72,506.31 (50) | 299,699.31(171) | 26,277.64 (35) | 537,056.75 (416) |

TABLE 4-3: OVERALL EXPENSES IN U.S.A. CORRELATED WITH TRAVEL MODE AND ROUTE TO NAHANNI NATIONAL PARK RESERVE, 1982.

| | MacKenzie Hwy. to Fort Simpson | Alaska Hwy. to Watson Lake | Road to Fort Nelson | Road to Tungsten | MacKenzie and Liard Hwy. to Blackstone R. | Air to Fort Simpson | Air to Watson Lake | Other | Total |
|---|---|---|---|---|---|---|---|---|---|
| Canoe | $24,945.35 (53) | $ 3052.75 (10) | $1313.00 (2) | $678.97 (17) | - | $28451.61 (48) | $ 19127.83 (75) | $4118.50 (17) | $ 81688.00 (223) |
| Raft | 8109.76 (16) | 7072.50 (20) | - | - | - | - | 54,923.69 (96) | 774.00 (3) | 70879.94 (135) |
| Powerboat | 2502.45 (10) | - | 2791.29 (12) | - | 5954.55 (22) | 480.00 (2) | - | 1578.50 (14) | 13306.79 (61) |
| Total | 35,557.56 (79) | 10125.25 (30) | 4104.29 (14) | 678.97 (17) | 5954.55 (22) | 28,931.61 (50) | 74,051.50 (171) | 6471.00 (35) | 165,874.75 (419) |

TABLE 4-4: AVERAGE PER PERSON EXPENDITURES IN CANADA AND N.W.T. CORRELATED WITH TRAVEL MODE, 1982.

| | Canada | N.W.T. |
|---|---|---|
| Canoe | $ 1369.48 | $ 366.70 |
| Raft | 1586.30 | 523.95 |
| Powerboat | 360.93 | 219.58 |
| Average | 1287.37 | 396.11 |

accounted for all visitor traffic destined for Nahanni and originating along the Alaska Highway to Watson Lake or by air to Watson Lake. The predominant access route utilized by powerboaters was the Mackenzie and Liard Highways to Blackstone Landing. All travel modes reached the park to some extent by taking the MacKenzie Highway to Fort Simpson.

The greatest amounts of dollars expended by Nahanni visitors, per individual, in the N.W.T. occurs among rafters, followed by canoeists and powerboaters, respectively. (Table 4-6). This situation occurs despite the fact that canoeists expend more money per individual in Canada than any other travel mode visitor along all of the main routes to Nahanni National Park Reserve, with the exception of rafters arriving via the Alaska Highway to Watson Lake (Table 4-5). Powerboaters contribute the fewest recreation dollars to Canada and the N.W.T. through visitation of NNPR.

By examination of class of expenditures in the N.W.T., it may be noted in Tables 4-7 and 4-8 that local transportation expenses constitute the single largest visitor expense item at 32.5% of total average per person expenditures. The other major expenditure category is outfitter's fees.

A comparision of travel modes with expenditures indicates that local transportation costs in the N.W.T. are the largest item among canoeists but not for the other travel modes. Rafters spend 59.1% of their travel budget on outfitters fees while powerboaters spend the largest proportion of their money on groceries and beverages in the N.W.T. (32.2%)

Powerboaters spend the least amounts of their travel budgets on N.W.T. accommodation. Rafters and canoeists spend significantly

TABLE 4-5: AVERAGE EXPENDITURE PER INDIVIDUAL IN CANOE CONSULTED WITH TRAVEL MODE AND ROUTE TO NAHANNI NATIONAL PARK RESERVE, 1982.

| | Mackenzie Hwy. to Fort Simpson | Alaska Hwy. to Watson Lake | Road to Fort Nelson | Road to Tungsten | Mackenzie and Liard Hwy. to Blackstone R. | Air to Fort Simpson | Air to Watson Lake | Other | Average |
|---|---|---|---|---|---|---|---|---|---|
| Canoe | $ 845.19 | $1131.32 | $850.00 | $1126.27 | - | $ 1490.21 | $1849.87 | $ 935.58 | $ 1375.18 |
| Raft | 753.96 | 1652.36 | - | - | - | - | 1671.71 | 2600.00 | 1586.29 |
| Powerboat | 485.00 | - | 399.60 | - | 411.14 | 600.00 | - | 110.00 | 360.93 |
| Average | 769.37 | 1497.86 | 462.48 | 1126.27 | 411.14 | 1454.50 | 1750.18 | 758.81 | 1290.17 |

TABLE 4-6: AVERAGE EXPENDITURE PER INDIVIDUAL IN CANOE CONSULTED WITH TRAVEL MODE AND ROUTE TO NAHANNI NATIONAL PARK RESERVE, 1982.

| | Mackenzie Hwy. to Fort Simpson | Alaska Hwy. to Watson Lake | Road to Fort Nelson | Road to Tungsten | Mackenzie and Liard Hwy. to Blackstone R. | Air to Fort Simpson | Air to Watson Lake | Other | Average |
|---|---|---|---|---|---|---|---|---|---|
| Canoe | $467.06 | $304.67 | $650.00 | $39.16 | $ - | $594.60 | $ 253.62 | $244.57 | $366.48 |
| Raft | 518.53 | 347.03 | - | - | - | - | 573.20 | 225.00 | 523.95 |
| Powerboat | 251.25 | - | 224.20 | - | 272.64 | 240.00 | - | 110.00 | 219.58 |
| Average | 450.04 | 333.07 | 283.64 | 39.16 | 272.64 | 580.38 | 432.44 | 186.86 | 396.09 |

**TABLE 4-7: CATEGORIES OF VISITOR EXPENDITURES IN THE N.W.T. CORRELATED WITH TRAVEL MODE IN NAHANNI NATIONAL PARK RESERVE, 1982 ($)**

| Class | Canoe | Raft | Powerboat | Average |
|---|---|---|---|---|
| Accommodation | $30.85 (9.3) | $25.89 (5.7) | $1.65 (0.8) | $ 25.10 (7.1) |
| Meals | 34.30 (10.4) | 31.53 (6.9) | 6.64 (3.2) | 29.45 (8.3) |
| Groceries/Beverages | 22.33 (6.8) | 17.05 (3.7) | 67.06 (32.2) | 27.03 (7.7) |
| Outfitter's Fees | 38.54 (11.7) | 269.78 (59.1) | 7.31 (3.5) | 107.76 (30.5) |
| Local Transportation | 150.84 (45.6) | 82.77 (18.2) | 48.47 (23.3) | 114.54 (32.5) |
| Entertainment | 4.72 (1.4) | 1.27 (0.2) | 4.74 (2.3) | 3.62 ( 1.0) |
| Crafts | 26.92 (8.2) | 22.42 (4.9) | 15.79 (7.6) | 23.90 ( 6.8) |
| Other Major | 13.42 (4.1) | .81 (0.1) | 51.21 (24.6) | 14.80 ( 4.2) |
| Personal | 8.34 (2.5) | 4.51 (1.0) | 5.59 (2.7) | 6.73 ( 1.9) |
| Totals | $330.26 | $456.03 | $208.46 | $352.93 |

**TABLE 4-8: TOTAL EXPENDITURES IN N.W.T. BY CATEGORY CORRELATED WITH TRAVEL MODE IN NAHANNI NATIONAL PARK RESERVE, 1982**

| | Canoe | Raft | Powerboat | Total |
|---|---|---|---|---|
| Accommodation | 7055.00 | 3503.06 | 100.00 | 10658.05 |
| Outfitter's Fees | 8384.86 | 36,495.52 | 443.05 | 45323.43 |
| Meals | 7809.07 | 4265.34 | 402.47 | 12476.89 |
| Groceries & Beverages | 5089.67 | 2306.24 | 4063.63 | 11459.54 |
| Local Transportation | 34,499.13 | 11,196.46 | 2937.50 | 48633.09 |
| Entertainment | 1080.15 | 171.60 | 287.00 | 1538.65 |
| Arts and Crafts | 6155.80 | 3033.11 | 957.07 | 10146.39 |
| Other Major Purchases | 3069.43 | 109.80 | 3103.11 | 6282.34 |
| Misc. and Personal | 1907.12 | 610.44 | 338.64 | 2856.20 |
| Totals | $75,050.13 | $61,691.98 | $12,632.47 | $149,374.58 |

**TABLE 4-9: NUMBER OF NIGHTS SPENT AT VARIOUS LOCATIONS IN N.W.T. BY NAHANNI NATIONAL PARK RESERVE VISITORS, 1982**

| | Fort Simpson | Nahanni Butte | Yellowknife | Other N.W.T. Communities | Total |
|---|---|---|---|---|---|
| Hotels/Motels | 144 (39.0) | 1 (0.5) | 16 (22.2) | 58 (22.8) | 219 (23.9) |
| Lodges | - | 1 (0.5) | - | - | 1 ( 0.1) |
| Friends/Relatives | 50 (13.6) | 9 (4.1) | 21 (29.2) | 6 ( 2.4) | 86 ( 9.4) |
| Campgrounds | 139 (37.7) | 172(77.4) | 34 (47.2) | 94 (37.0) | 439 (47.9) |
| Other | 36 ( 9.7) | 39(17.5) | 1 ( 1.4) | 96 (37.8) | 172 (18.7) |
| Total | 369 | 222 | 72 | 254 | 917 |

**TABLE 4-10: PREPAID AND DEPARTURE POINT COSTS CORRELATED WITH TRAVEL MODE OF VISITORS TO NAHANNI NATIONAL PARK RESERVE, 1982 (%)**

| Mode | N | Prepaid | N | Costs to departure point |
|---|---|---|---|---|
| Canoe | 175 | $1040 | 47 | $619 |
| Raft | 118 | 1523 | 76 | 469 |
| Powerboat | 26 | 586 | - | 0 |
| Totals | 319 | | 123 | |
| Average | | $1166 | | $526 |

**Table 4-11: CATEGORIES OF PREPAID COSTS PAID BY VISITORS TO NAHANNI NATIONAL PARK RESERVE, 1982 (%)**

| | Canoe | Raft | Powerboat | Total |
|---|---|---|---|---|
| Transportation to the N.W.T. | 117 (50.2) | 60 (41.9) | 7 (11.4) | 184 (41.8) |
| Transportation to and from the Park | 82 (35.3) | 78 (55.0) | 22 (33.3) | 182 (41.3) |
| Other sidetrips in the N.W.T. | 3 (1.5) | 4 (3.1) | 2 (3.8) | 10 (2.4) |
| Accommodation | 27 (11.6) | 59 (41.4) | 17 (25.7) | 103 (23.3) |
| Meals | 70 (29.8) | 64 (45.0) | 22 (34.1) | 156 (35.3) |
| Outfitting | 77 (33.0) | 40 (28.0) | 5 (8.4) | 122 (27.7) |
| Other A | 3 (1.4) | - | 2 (3.0) | 5 (1.2) |
| Other B | 23 (9.8) | 13 (9.0) | - | 66 (14.9) |

less amounts of monies on entertainment, groceries and beverages, and major purchases other than crafts.

## 4.3 Accommodation While in N.W.T.

Survey participants were requested to indicate the location and type of accommodation used while in the N.W.T. As illustrated in Table 4-9, 47.9% of total nights by Nahanni visitors were spent in campgrounds in the N.W.T. The greatest amount of camping occurred at Nahanni Butte and Fort Simpson.

Hotel use was most intense at Fort Simpson but occurred to significant degrees in Yellowknife and other N.W.T. communities. A number of Nahanni National park visitors also stayed with friends and relatives while in the N.W.T. Lodge accommodation was negligible in 1982.

## 4.4 Other Visitor Travel Costs to the N.W.T.

Prepaid expenses were incurred by a significant number of Nahanni visitors. Generally, these costs were highest for rafters and lowest for powerboaters. (Table 4-10). In addition, costs were incurred by travellers who joined organized tours to reach their organized points of departure. These costs were experienced by 27.4% of visitors to Nahanni National Park reserve in 1982. The nature of prepaid expenditures varies with the travel mode of visitors in the park.

The greater number of canoeists (approximately one half) expended monies out front on transportation to the N.W.T. About one third of canoeists also prepaid transportation to and from the park, outfitting fees and meal costs (Table 4-11).

TABLE 4-12: SUMMARY TABLE: TRIP EXPENSES INCURRED BY NAHANNI NATIONAL PARK RESERVE VISITORS, 1982 (AVERAGES PER INDIVIDUAL)

| | Prepaid Trip Expenses | Expenses to Pre-arranged Departure Point | Overall* Expenses in Canada | Overall* Expenses in N.W.T. |
|---|---|---|---|---|
| Canoe | $158,947 (1040.64) | $25,573 (619.06 | $300,407 (1369.48) | $82,260 (366.70) |
| Raft | $140,618 (1523.17) | $31,818 (469.29) | $214,593 (1586.30) | $70,880 (523.95) |
| Powerboat | $ 13,975 (586.20) | - | $ 22,771 (360.93) | $13,307 (219.58) |
| Total | $313,540 | $57,391 | $537,772 | $166,447 |
| Averages Per Person | $1166.01 | $525.99 | $1287.37 | $396.10 |

*Overall expenses in Canada and the N.W.T. exclude transportation costs to and from Canada but include other prepaid expenses.

The most common prepaid expense of rafters was transportation to and from the park (34.1%). Other significant prepaid costs of rafters were transportation to the N.W.T. (41.9%), accommodation (41.4%) and meals (45.0%).

Powerboaters generally prepaid accommodation and meal expenses related to visitation to Nahanni National Park Reserve. Transportation to and from the park was also prepaid in approximately one-third of powerboat excursions. (See Table 4-11).

In summary, Table 4-12 illustrates the breakdown of prepaid, departure point, Canadian and N.W.T. expenses by Nahanni visitors in 1982. Prepaid trip expenses account for roughly 58% of total expenditures in Canada but include non-Canadian expenses in Canada for Canadian visitor of Nahanni National Park Reserve. The percentage would be somewhat less for foreign visitors to the park.

POOR

QUALITY

ORIGINAL